



Abhrajyoti Kundu
 Computer Science & IT (CS)

 [HOME](#)

 [MY TEST](#)

 [BOOKMARKS](#)

 [MY PROFILE](#)

 **REPORTS**

 [BUY PACKAGE](#)

 [NEWS](#)

 [TEST SCHEDULE](#)

FULL SYLLABUS DEMO TEST : (CS) - REPORTS

OVERALL ANALYSIS

COMPARISON REPORT

SOLUTION REPORT

ALL(65)

CORRECT(43)

INCORRECT(14)

SKIPPED(8)

Q. 31

 [Have any Doubt ?](#)



For two relations $R(A, B, C)$ and $S(D, E)$, relation S maintains a foreign key for D on attribute A of relation R . Consider the following statements:

- (a) Each record of R is related to 0 or more records of S .
- (b) Each record of S is related to 0 or more records of R .
- (c) Each record of S is related to 0 or 1 record of R .
- (d) Each record of R is related to 0 or 1 record of S .

Which of the following is/are true?

A

a

Your option is Correct

B

b

C

c

Your option is Correct

D

d

YOUR ANSWER - a,c

CORRECT ANSWER - a,c

STATUS - 

Solution :

(a, c)

Option (a) is correct because relation S is allowed to take only those values which are part of relation R . Hence, R is related to 0 or more records of S . Option (c) is correct, since relation S is going to have only those values which are part of R . Hence, it is related to only 1 value of R . But the field with NULL is related to 0 value of R . Hence, option (b) and (d) are false.



QUESTION ANALYTICS



Q. 32

 [Have any Doubt ?](#)



Exceptions are caused by

A

Page fault

Your option is Correct

B

When device finishes I/O.

C

When timer fires.

Your answer is IN-CORRECT

D

When a user attempts to write to read only page.

Your option is Correct

YOUR ANSWER - a,c,d

CORRECT ANSWER - a,d

STATUS - 

Solution :

(a, d)

Exceptions are caused by software executing instructions.
 Example - a page fault, or an attempted write to read only page.
 Interrupts are caused by hardware devices.
 Example - when devices finishes I/O, timer fires.



QUESTION ANALYTICS



Q. 33

 [Have any Doubt ?](#)



Which of the following is/are true?

A

$f(n) + g(n) = O(f(n))$ if $g(n) = O(f(n))$

Your option is Correct

B

$\log(\log^* n) > \log^*(\log n)$

C

$n^{\log \log n} = (\log n)^{\log n}$

Your option is Correct

D $n \log \log n = (\log n)!$

YOUR ANSWER - a,c

CORRECT ANSWER - a,c

STATUS - ✓

Solution :

(a,c)

- Statement (a) is true.

- Let $f(n) = 2^{\frac{n}{2}}$ } 1000 times

$$\log^* n = 1000 \quad \text{and} \quad \log f(n) = 2^{\frac{n}{2}} } 999 \text{ times}$$

$$\log(\log^* n) \approx 10$$

$$\text{So } \log(\log^* n) > \log^*(\log n)$$

So statement (b) is false.

- $n^{\log \log n} = (\log n)^{\log n}$

$$n^{\log(\log n)} \Rightarrow (\log n)^{\log n}$$

So statement (c) is correct.

- Statement (d) is false because

$$(\log n)! = O(\log n)^{\log n}$$

QUESTION ANALYTICS

Q. 34

Have any Doubt ?



The number of balance parenthesis possible with 5-pairs of parenthesis _____. [Assume () and (()) is balance parenthesis but not) (].

42

Your answer is Correct42

Solution :

42

Number of possible balance parenthesis = Number of binary search tree

$$\text{Number of binary search tree} = \frac{2^n C_n}{n+1} \quad \dots(i)$$

Put value of $n = 5$ in equation (i)

$$\begin{aligned} \text{Number of binary search tree} &= \frac{2 \times 5 C_5}{5+1} = \frac{10 C_5}{6} \\ &= \frac{1}{6} \times \frac{10 \times 9 \times 8 \times 7 \times 6 \times 5!}{5 \times 5!} = 42 \end{aligned}$$

QUESTION ANALYTICS

Q. 35

Have any Doubt ?



In IPv4, a router is sending IP packets whose total length (data + header) is 2048 bytes. Assuming that packet lifetime is 10 sec, the maximum data line speed router can operate at without wrap around of identification number of datagram _____ (in Mbps). (Upto 2 decimal places)

107.37 [107.30 - 107.40]

Your answer is Correct107.37

Solution :

107.37 [107.30 - 107.40]

Packet length = 2048 bytes

Packet lifetime = 10 sec

In IPv4 number of packet that can be identify uniquely at per time = $2^{16} = 65536$

Maximum 65536 packet may be present in 10 sec

So, in 1 sec = $65536 \div 10 = 6553.6$

So, data line speed = (Number of byte/packet) \times (Number of packet/seconds) \times (Number of bits/byte)

$$= 2048 \times 6553.6 \times 8$$

$$= 107374182.4 \text{ bits/sec}$$

$$\text{In Mbps} = 107.37$$

QUESTION ANALYTICS

Q. 36

Have any Doubt ?



Consider the following code for single linked list:

```
Struct void Modified (Struct node ** head)
{
    Struct node * X = *head;
    Struct node * Y;
    Struct node * Z = NULL;
    while (X != NULL)
    {
        Y = X -> next;
        X -> next = Z;
        Z = X;
        X = Y;
    }
    *head = Z;
}
```

If head is a pointer to a pointer to the first node of the list and it is passed to the 'Modified' function then find the list after executing the function.

A It adds a new node at the first

B It adds a new node at the last

C It keeps the list as same

D It reverses the list

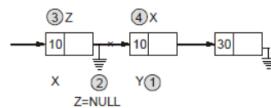
Your answer is Correct

Solution :

(d)

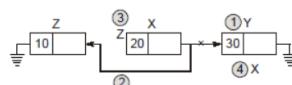
Assume initially X is pointing to the first node.

1. $Y = X \rightarrow \text{next};$
2. $X \rightarrow \text{next} = Z;$
3. $Z = X;$
4. $X = Y;$

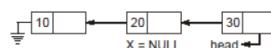


In the first iteration of loop, list is modified as above.

In the second iteration of the loop, second node next is the first, which is shown below.



Similarly after the third iteration, 3rd node next is the second node. After the third iteration the list is reversed as following.



While loop exit due to $X = \text{NULL}$ and finally executes $*\text{head} = Z$, so head will be double pointer to the node 30.

∴ list is reversed.

QUESTION ANALYTICS

Q. 37

Have any Doubt ?



Consider the following last level order strategy for traversing a binary tree:

- Visit right sub tree using last level order.
- Visit left sub tree using last level order.
- Visit root.

Assume \uparrow is power operator and it has the highest precedence and follows right associativity.

The last level order traversal of expression tree corresponding to the given postorder traversal is

7 7 1 \uparrow 7 1 * / + 7 -

A 7, 1, 7, *, 1, 7, \uparrow , 7, /, +, -

B 7, -, 1, *, 7, /, 1, \uparrow , 7, +, -

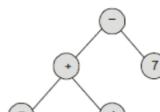
C 7, 1, 7, *, 1, 7, \uparrow , /, 7, +, -

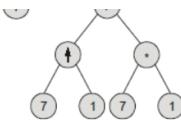
Your answer is Correct

Solution :

(c)

Expression tree equivalent to given postorder traversal:





Equivalent last level traversal is 7, 1, 7, *, 1, 7, ↑, /, 7, +, -

- D 7, 7, 1, *, 1, 7, ↑, /, 7, +, -

QUESTION ANALYTICS

+

Q. 38

Have any Doubt ?

Bookmark

Consider the following statements:

S₁ : When a strict routing has been specified by the source but can't be followed by the intermediate routers, such events will not be reported by ICMP.
S₂ : Two distinct webpages (for eg. www.madeeasy.in/student.html and www.madeeasy.in/ course.html) can not be sent over the same persistent connection.

Which of the above statements are true?

- A Only S₁

- B Only S₂

- C Both S₁ and S₂

- D None of these

Your answer is Correct

Solution :

(d)

S₁ : When a strict routing has been specified by the source but can't be followed by the intermediate routers, such events will be reported by ICMP.

S₂ : Since persistent HTTP leaves connection open if connection is not timeout. So we can send more webpages over persistent HTTP connection.

QUESTION ANALYTICS

+

Q. 39

See your Answers

Bookmark

Consider the following synchronization construct used by the processes P₁, P₂ and P₃. The S₁, S₂ and S₃ are counting semaphore variables:

S₁ = 3, S₂ = 2, S₃ = 1;

P (S₁);

P (S₂);

P (S₃);

Critical section

V (S₃);

V (S₂);

V (S₁);

Which of the below statement is true?

- A It satisfies mutual exclusion and progress but not bounded waiting.

- B It satisfies both progress and bounded waiting but not mutual exclusion.

Your answer is IN-CORRECT

- C It satisfies mutual exclusion and bounded waiting but not progress.

- D It satisfies all the mutual exclusion, progress and bounded waiting.

Correct Option

Solution :

(d)

It satisfies all the M.E. progress, bounded waiting, because the order of counting semaphore down operations are accordingly performed.

QUESTION ANALYTICS

+

Q. 40

Have any Doubt ?

Bookmark

In a computer system, three files of size 11052 B, 4992 B and 5172 B need to be stored. For storing these files on disk, we can use either 100 B disk block or 200 B disk block. For each block used to store a file, 2 bytes of book keeping information also needs to be stored on the disk. Thus, the total space used to store a file is the sum of space taken to store the file and space taken to store the book keeping information for the blocks allocated for storing the file. A disk block can store either book keeping information for a file or data from a file, but not both. What is the total space required for storing the files using 100 B and 200 B disk blocks respectively.

A 21800 B, 22240 B

B 21700 B, 22000 B

C 21900 B, 22000 B

Your answer is Correct

Solution :
(c)

100 B

File size	100 B block	Bytes needed for Book keeping	Block for Information
4992	50	100	1
5172	52	104	2
11052	111	222	3
Total		213	6

$$\text{Space} = 213 \times 100 + 6 \times 100 = 21300 + 600 = 21900 \text{ B}$$

200 B

File size	200 B block	Bytes needed for Book keeping	Block for Information
4992	25	50	1
5172	26	52	1
11052	56	112	1
Total		107	3

$$\text{Space} = 107 \times 200 + 3 \times 200 = 22000 \text{ B}$$

D 21800 B, 22200 B

QUESTION ANALYTICS

+

Item 31-40 of 65 « previous 1 2 3 4 5 6 7 next »